



USING UTAUT2 MODEL TO EXAMINE THE DETERMINANTS OF OMNICHANNEL TECHNOLOGY ACCEPTANCE BY CONSUMERS

Ngoc My Hang Nguyen, Barbara Borusiak

1) CBRE Corporate Outsourcing, Warsaw, **Poland**, 2) Poznań University of Economics and Business, Poznań, **Poland**

ABSTRACT. Background: The paper presents the problem of omnichanneling technology acceptance by consumers in the purchasing process. The omnichanneling technology is an innovative solution used by retailers operating both brick&mortar and online retail formats, consisting in the integration of sales channels which aims to deliver a seamless customer experience regardless of the channel. It is an expensive and operationally complex solution, hence the need to test customer willingness to accept it. The objective of the article is to examine the determinants of both the intentions of acceptance the omnichannel technology by consumers and its use in purchasing behavior in accordance with the adopted UTAUT2 model.

Methods: The work uses a hypothetical-deductive scientific method. Based on the UTAUT2 model, hypotheses were formulated regarding the type and strength of the latent variables impact on intention to accept technology and technology acceptance.

Results: Data were collected from 280 respondents using CAWI method. Then, the factors were verified by exploratory factor analysis. Confirmatory factor analysis was used to examine the determinants (and the strength of their impact) of the intention to accept the technology and its use in the purchasing process.

Conclusions: The research identified personal innovativeness as the strongest predictor of omnichannel purchase intention, accompanied by social impact and expected performance. It was also found that perceived risk and hedonic motivation were not relevant in this study. The habit was proved to be a reliable indicator of both the intention to accept omnichanneling technology in the purchasing process and the behaviour associated with using the technology, while the facilitating conditions turned out to be related only to the use of omnichanneling technology.

Key words: omnichanneling, UTAUT2 model, technology acceptance, customer intentions, use behaviour.

INTRODUCTION

Considered the future of the retail environment, the phenomenon of omnichanneling has gained the attention of researchers and practitioners. It enables customers to attain a very high level of convenience when buying a product, as it lets them switch between channels anytime and anywhere. This research aims to identify the factors that influence omnichannel consumer behaviour through their acceptance, intention and continuous behaviour in using new technologies in the shopping process. To achieve this, a customised conceptual research

model derived from the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), including two other factors (personal innovativeness and perceived risk), was designed.

Previous studies have revealed that omnichannel consumers are a growing phenomenon worldwide [Schlager, Maas, 2013], and they anticipate having many opportunities to interact with the brand during the shopping journey and expect an excellent shopping experience [Cook, 2014]. Omnishoppers tend to use several channels at once, and are likely to use the devices they own to search for information, compare

between products, ask for guidance and comments, or seek for competitive alternatives throughout the shopping journey to view the offer on each channel [Yurova, et al. 2017]. Moreover, omnishoppers have a belief that they know more about shopping and have control over the sales encounter [Rippé, et al., 2015]. Also, the online environment offers a complete shopping experience that purchasers might pass by in the store. As a result, a new source of disruption has come to retail as the Internet era has arrived strongly, and retailing is transformed from multi-channel to omnichannel retailing [Rigby, 2011]. While multi-channel retail separates the physical and online; the concept of omnichannel provides the customer with more than just a way of shopping, as they can shift freely among channels [Piotrowicz, Cuthbertson, 2014]. As the phenomenon is growing, it is necessary to continue the examination into the area of omnichannel user behaviour [Verhoef, Kannan, Inman, 2015] to discover consumers' attitudes toward the influence of technology in purchasing decision and their use behaviour in the new context [Escobar-Rodríguez, Carvajal-Trujillo, 2014].

Technology is a requirement for omnichannel; with consumer recognition and acceptance of the technology being at the centre of it [Bloomberg, 2014] where an understanding of the variables that affect customer behaviour would be beneficial. The technology applied in an omnichannel environment is the technology consumers' associate within each touchpoint during the purchasing process [Juaneda-Ayensa, Mosquera and Murillo, 2016]. Several theories have been presented to demonstrate technology use behaviour, such as Technology Acceptance Model (TAM) by Davis [1989], Innovation Diffusion Theory (IDT) by Moore and Benbasat [1991], Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh, et al. [2003], and UTAUT2 by Venkatesh et al. [2012]. The last one, the Unified Theory of Acceptance and Use of Technology 2, will be used in the current study as the main theoretical framework. UTAUT2 is seen as an extension of the previous version of UTAUT by adding three new variables – these being hedonic motivation (HM), price value (PV) and habit (H) [Venkatesh et al., 2012], in

addition to the four main variables which are performance expectancy (PE), effort expectancy (EE), facilitating conditions (FC) and social influence (SI) – to examine the factors influencing the acceptance and usage of technology from the consumers' perspective. This adjustment was made to have a better model of the consumer context [2012]. Although UTAUT2 was initially developed for American consumers, it has been suggested it could apply to other geographical contexts. Therefore, investigating UTAUT2 in the context of omnishopping acceptance in Poland provides both theoretical as well as practical contributions [Trojanowski, Kułak, 2017].

However, only limited studies have measured user acceptance and the use of the omnichannel system within the UTAUT2 model. Research by Juaneda-Ayensa, Mosquera and Murillo [2016] reviewed omnichannel strategy in the apparel sector, but not only in terms of the UTAUT2 model as they also included two other variables: personal innovativeness and perceived security. Until now, the number of studies measuring how omnichannel shopping is accepted and utilised by consumers in Poland is very limited, mainly due to the fact that the omnichannel shopping experience is a new concept for Polish consumers.

This study suggests a construct of the framework based on the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) as illustrated by Venkatesh et al. [2012]. Purchase intention and use behaviour of omnichannel shopping are placed as the endogenous constructs, representing consumer acceptance and use. Purchase intention of omnichannel shopping is driven by exogenous variables such as performance and effort expectancy, social influence, facilitating conditions, hedonic motivation, habit, personal innovativeness, and perceived risk which are set as main antecedents. The aim is to explain how the constructs of UTAUT2 and personal innovativeness (PIN) leverage purchase intention (PI) and use behaviour (UB) towards the adoption of omnichannel shopping.

Performance expectancy (PE) in information technology signifies that users view the omnichannel to be useful because it

lets them fulfil their target-driven duties [Venkatesh et al., 2003]. PE has so far been shown to be the dominant component in user decision purchase intention [Pascual-Miguel, Agudo-Peregrina, Chaparro-Peláez, 2015] and behavioural intention [Venkatesh et al., 2003; Escobar-Rodríguez and Carvajal-Trujillo, 2014] in UTAUT2 model. Due to this the following hypothesis was formulated:

H1: Performance expectancy positively influences omnichannel purchase intention.

Effort expectancy (EE) is defined as how comfortable shoppers feel in using different touchpoints during the shopping journey and it reflects the perceived usage difficulty of accepting the various touchpoints from retailers. Based on previous research EE positively influences purchase intention [Venkatesh, Thong, Xu, 2012], so the following hypothesis was proposed for this construct:

H2: Effort expectancy positively influences omnichannel purchase intention.

Social influence (SI) is the construct which is based on the assumption that an individual's behaviour is affected by the way people believe others will see them as a result of their technology experience [Venkatesh et al. 2003] and positively affect purchase intention [Venkatesh, Thong, Xu, 2012]. Accordingly, the following hypothesis was suggested:

H3: Social influence positively influences omnichannel purchase intention.

Facilitating conditions (FC) relate to customers' perceptions of the availability of resources and support tools to produce behaviour [Brown, Venkatesh, 2005; Venkatesh et al., 2003]. Previous research illustrated that a set of FC could lead to higher intentions of using multiple channels [Hew, Lee, Ooi, 2015]. In order to use different platforms, users need to have certain resources and skills such as knowing how to use a computer, mobile phone or tablet; how to connect to the Internet; install applications, etc. These lead to the hypotheses that when the user has a good understanding of the FC, it will

result in accepting different channels in two purchase stages:

H4a: Facilitating conditions positively influence omnichannel purchase intention.

H4b: Facilitating conditions positively influence omnichannel use behaviour.

Hedonic motivation (HM) explains either the pleasure or enjoyment received from adopting a technology [Brown, Venkatesh, 2005; Venkatesh, Thong, Xu, 2012]. HM has been proved to perform an essential role in defining technology acceptance and usage [Brown, Venkatesh, 2005]. But it was also proven that HM is not a factor that influences purchase intention in the omnichannel context [Juaneda-Ayensa, Mosquera, Murillo, 2016]. In order to check it, we set out the following hypothesis:

H5: Hedonic motivation positively influences omnichannel purchase intention.

Habit (H) is described as the extent that an individual has the propensity to perform certain behaviours automatically [Limayem, Hirt, Cheung, 2007], which influences purchase intention and use behaviour [Escobar-Rodríguez and Carvajal-Trujillo, 2014]. Hew, Lee and Ooi [2015] found that habit was the strongest predictor of behavioural intention to use mobile applications. However, Juaneda-Ayensa, Mosquera and Murillo [2016] found that H did not influence purchase intention in an omnichannel context. Considering the different results shown in the literature, the following hypotheses were formulated:

H6a: Habit positively influences omnichannel purchase intention.

H6b: Habit positively influences omnichannel use behaviour.

Personal innovativeness (PIN) is described as the degree to which one person decides to try different and new goods or channels, or search for new experiences which require more extensive research [Midgley, Dowling, 1978]. Juaneda-Ayensa, Mosquera and Murillo [2016]

consider that PIN also includes consumers' profiles or preferences in trying new channels and experiences. In an omnichannel context, PIN has been utilised as a predictor which influences purchase intention [San Martín and Herrero, 2012; Escobar-Rodríguez and Carvajal-Trujillo, 2014; Juaneda-Ayensa, Mosquera, Murillo, 2016]. The next study hypotheses were thus formulated:

H7a: Personal Innovativeness positively influences omnichannel purchase intention.

H7b: Personal Innovativeness positively influences omnichannel use behaviour.

Herhausen, Binder, Schoegel and Herrmann [2015] founded that perceived risk (PR) impacts the shopping channel preferences of customers. PR is classified into six dimensions: financial risk, performance risk, psychological risk, social risk, privacy risk and time risk [Cunningham, 1967]. Kazancoglu and Aydin [2018] discovered that participants perceived omnichannel shopping as unsafe, considering it as a new kind of market organisation. PR connected to online transactions could decrease perception of behavioural and environmental control; hence, negatively influence transaction intentions [Kim, Forsythe, 2007; Chang, Chen, 2009]. Consequently, the following hypotheses are proposed:

H8a: Perceived risk negatively influences omnichannel purchase intention.

H8b: Perceived risk negatively influences omnichannel use behaviour.

It is anticipated that the eight independent variables of PE, EE, SI, FC, HM, H, PIN, and PR will have a noticeable impact on purchase intention (PI), being able to influence the attitude of possible omnishoppers via technology and show how they influence user behaviour in the shopping-process context. The following hypothesis is suggested:

H9: Purchase intention positively influences omnichannel use behaviour.

RESEARCH METHODOLOGY

The data were gathered in May 2019 using the CAWI method, i.e. access to the questionnaire was distributed via a link on social media (Facebook, Instagram) as well as sent by email. As previous research revealed that younger people between 18-34 years old are likely to regularly spend more time on mobile phone applications [Pedotto, Chen, 2016] than other users, young people were used as the main focus group. The research items are presented in Appendix 1. Respondents were asked to evaluate their response to each item on a seven-point Likert scale. During the three weeks of the survey 280 full questionnaires were collected.

The demographic characteristics of the sample is presented in the table 1.

Table 1. Demographic characteristics of the sample (in %)

Gender	Male	25.7
	Female	74.3
Age	15-18	1.8
	19-24	73.6
	25-30	16.1
	over 30	8.6

Source: Authors' own

RESULTS

Cronbach's alpha was used to measure reliability as well as consistency between construct variables [Morgan, Leech, Gloeckner and Barrett, 2013]. Then, exploratory factor analysis was employed to measure the accuracy of the research model. Finally, confirmation factors analysis (CFA) was applied to confirm the hypotheses. Both SPSS (version 24) and AMOS (version 20) were used to analyse the data. Descriptive statistic measures were applied to examine the principal characteristic of the data in order to verify the normal distribution. For all statements except one (PE2 kurtosis: 3.314) skewness and kurtosis remained in the normal distribution range. All Cronbach's alphas for independent constructs in this study are above the minimum standard at 0.6 [George and Mallery, 2010].

Purchase intention determinants

Twenty-six attributes were submitted to run Exploratory Factor Analysis (EFA) with the Maximum Likelihood method and the Oblimin rotation method including the factor loadings and was equivalent to the factor matrix that was rendered for the rotation [Field, 2009]. As a consequence, EFA produced a six-factor model. The KMO test reflected a value of 0.766, indicating that the sample was good enough so factor analysis could proceed to the next step; and Sigma was .000, meaning the figure was significant. The initial factor analysis indicated factors to explain for 70.2% of purchase intention out of total variance. Table 2 presents the pattern matrix of 6 factor loadings for purchase intention.

Table 2. Pattern Matrix for EFA

Pattern Matrix ^a						
	Factor loadings					
	1	2	3	4	5	6
PR2	.990					
PR1	.679					
PR3	.651					
EE2		.947				
EE1		.939				
EE3		.437				
SI1			.935			
SI2			.868			
SI4			.759			
SI3			.744			
PE3				-.924		
PE2				-.915		
PE1				-.660		
H2					.943	
H3					.851	
H1					.724	
PIN4						.855
PIN1						.834
PIN2						.752
Extraction Method: Maximum Likelihood.						
Rotation Method: Oblimin with Kaiser Normalization.						
a. Rotation converged in 11 iterations.						

Source: Authors' own

All items in the hedonic motivation (HM) and facilitating condition (FC) constructs were removed due to poor factor loading. Therefore, two hypotheses failed to be confirmed – H4a and H5. EE3 is slightly above 0.4 but still low (0.437) so will also be eliminated in the next step.

Use behaviour determinants

The process to analyse use behaviour is similar to purchase intention; however, use

behaviour only includes attributes from FC, PIN, PR, and H. Therefore, a five-factor matrix was rendered in this case. The output of the KMO test was 0.793, a good value to continue with factor analysis. Sigma was .000, which met the requirements. Regarding use behaviour, initial factor analysis indicated factors to explain 61.1% of total variance. Similarly, the pattern matrix for user behaviour was also obtained by extracting from the Maximum Likelihood and Oblimin rotation methods [Field, 2009]. Table 3 represents the output for user behaviour.

Table 3. Pattern Matrix for EFA

Pattern Matrix ^a					
	Factor loadings				
	1	2	3	4	5
PR2	1.018				
PR1	.659				
PR3	.657				
PI2		.972			
PI3		.762			
PI1		.587			
H2			-.925		
H3			-.841		
H1			-.711		
PIN1				.826	
PIN4				.824	
PIN2				.772	
FC2					.795
FC1					.741
Extraction Method: Maximum Likelihood.					
Rotation Method: Oblimin with Kaiser Normalization.					
a. Rotation converged in 7 iterations.					

Source: Authors' own

PIN3 and FC3 were eliminated in the next step due to their poor factor loadings (below 0.4). In summary, the EFA extracted five factors, which explained 61.1% of the total variance.

Measurement model validation

Confirmation Factor Analysis (CFA) was applied to validate the measurement model. The CFA in this study was executed by adopting the maximum likelihood method in AMOS 20.0. CFA results does not indicate compliance with the values recommended by Januszewski (2011): $\chi^2 = 653.926$; CFI = 0.918; TLI = 0.908; GFI = 0.849; $\chi^2/df = 2.255$; $p < 0.00$, and RMSEA = 0.067. Therefore, the initial model was rejected. To obtain acceptable validity and reliability and to achieve a good model fit, critical ratio (C.R.) values were analysed. In table 4, all C.R.

values are higher than 1.96, which indicates the estimations are different from zero in this model [Byrne, 1998]. Consequently, the null hypotheses were rejected. Every p-value below a level of 0.001 stands for a significant relationship; for this reason it is essential that they are subjected to further analysis.

Table 4. 1st CFA model

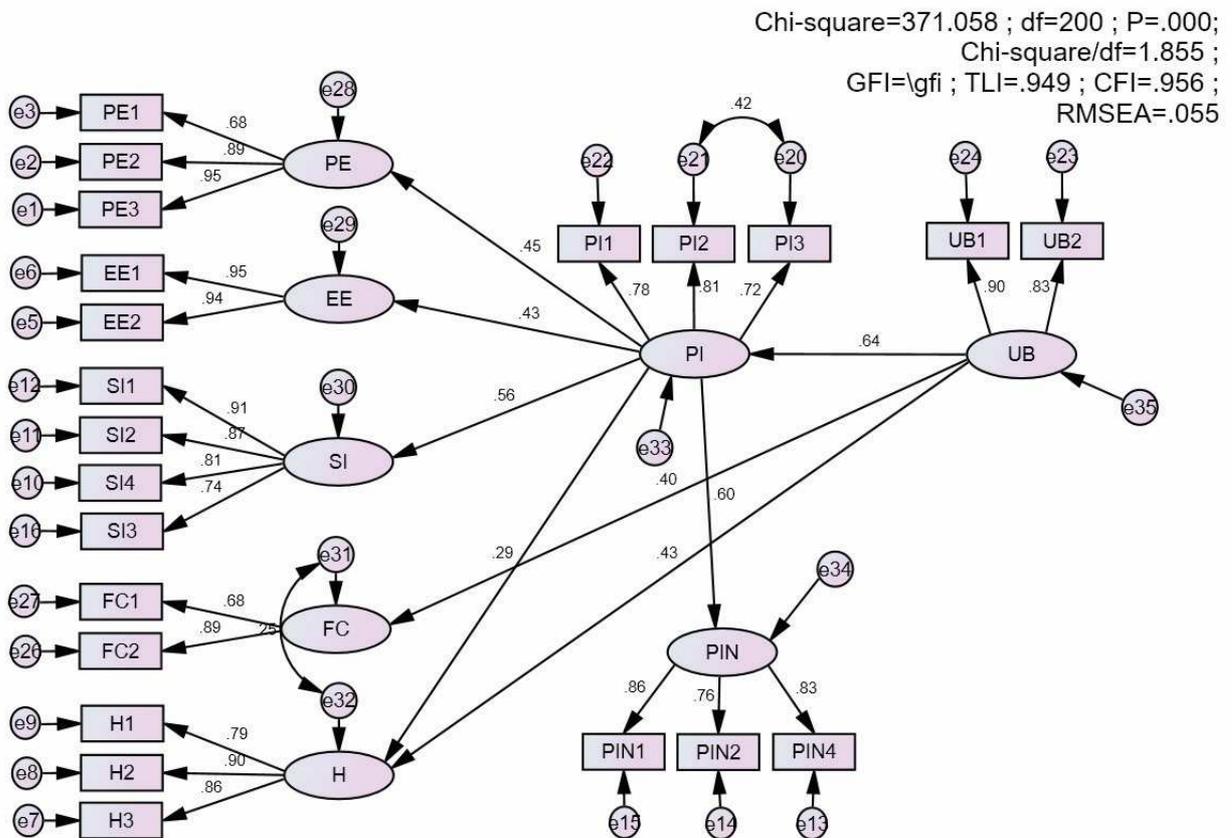
		Estimate	S.E.	C.R.	p-value
PI	→ UB	0.408	0.051	8.079	***
PE	→ PI	0.494	0.085	5.788	***
EE	→ PI	0.324	0.06	5.431	***
SI	→ PI	0.76	0.096	7.958	***
H	→ PI	0.496	0.114	4.353	***
PIN	→ PI	0.725	0.123	5.88	***
FC	→ UB	0.213	0.054	3.939	***
PR	→ PI	0.272	0.155	1.759	0.079
PR	→ UB	-0.181	0.110	-1.646	0.100
H	→ UB	0.485	0.082	5.896	***
PIN	→ UB	0.125	0.081	1.539	0.124

Source: Authors' own

As shown in Table 4, the p-values of PR towards PI and UB are 0.079 and 0.1

respectively (>0.05). This result illustrates that there is no significant relationship between perceived risk and purchase intention or use behaviour regarding intention to adopt technology in the omnichannel shopping journey. Data revealed also that there is no significant relationship between PIN and UB (p-value = 0.124). Consequently, the hypotheses H7b, H8a and H8b failed to be supported:

The revised CFA model (Table 5 and Figure 1) were produced by eliminating standard regression weights one by one as mentioned above, and applying modification indices to enhance the model. The Chi-square index was 371.058 with a p-value of 0.000, and with Chi-square/df = 1.855, it represents a parsimonious fit. All results showed that this model achieved a good fit with the data and was accepted for further analysis.



Source: Authors' own

Fig. 1. Modified CFA model

Table 5. Output of model fit indicators

Model	RMSEA	GFI	TLI	CFI	CMIN/D
Default model	0.055	0.892	0.949	0.956	1.855
Saturated model		1		1	
Independence model	0.246	0.292	0	0	17.907

Source: Authors' own

The Figure 1 shows the outcomes of the adjusted model, which includes the structural relationships, the standardised estimates of the path coefficients, plus the index factor of model fit.

Table 6 presents a structural representation of unstandardized regression coefficients and correlated statistics results that generated positive impacts between predictor latent variables and purchase intention, plus use behaviour. All the factor loadings are significant at $p < .001$. The results show that the most important effects were those generated by personal innovativeness on purchase intention ($\beta = 0.835$; $p < 0.01$), which indicates that personal innovativeness explains 83.5 percent of the variance in purchase intention. The social influences construct was found to have the second most positive influence toward purchase intention ($\beta = 0.740$; $p < 0.01$). Moreover, positive and significant influences were found between PE and PI ($\beta = 0.511$, $p < 0.01$); positive EE on PI ($\beta = 0.561$, $p < 0.01$); H on PI and UB respectively ($\beta = 0.425$ and $\beta = 0.476$, $p < 0.01$); and FC on UB but less importantly with $\beta = 0.231$, $p < 0.01$. Lastly, the structural coefficients estimate between UB and PI is 0.478, $p < 0.01$, which indicates purchase intention and explains 48 percent of the variation in the use behaviour of customers.

Table 6. Regression weight of modified model

	Estimate	S.E.	C.R.	P-value
PI → UB	0.478	0.054	8.923	***
PE → PI	0.511	0.084	6.090	***
EE → PI	0.561	0.087	6.426	***
SI → PI	0.740	0.093	7.921	***
PIN → PI	0.835	0.098	8.552	***
FC → UB	0.231	0.048	4.817	***
H → UB	0.476	0.092	5.186	***
H → PI	0.425	0.121	3.513	***

Source: Authors' own

This means the hypotheses H1, H2, H3, H4b, H6a, H6b, H7a, H9 were supported, whereas H4a, H5, H7b, H8a, H8b were rejected.

DISCUSSION

The main object of this research was to recognise the drivers of technology acceptance amongst omnichannel consumers, as well as to examine how they influence purchase intention and use behaviour in an omnichannel environment. Personal innovativeness turned out to be the most important influential predictor of purchase intention in an omnichannel setting ($\beta = .603$, $p < .05$). This factor fulfils the role of being a fundamental driver of omnichannel purchase intention. Innovativeness has so far gained massive recognition in previous studies on consumer behaviour [Rogers, 2010]. In recent studies especially, PIN is considered as a critical driver in an online environment [San Martin and Herrero, 2012], as well as significantly influencing purchase intention in an omnichannel context [Juaneda-Ayensa, Mosquera, Murillo, 2016]. However, personal innovativeness fails to have a significant effect on actual usage behaviour ($\beta = .12$; $p = 0.124$).

Social influence turned out to be the second most crucial factor that predicts purchase intention to use omnichannel ($\beta = .564$, $p < .05$). In a previous studies social influence was proven not to influence purchase intention in an omnichannel context [Juaneda-Ayensa, Mosquera and Murillo, 2016]. However, the result of the current study are in line with some previous research [Kim and Forsythe, 2007; Venkatesh, Thong and Xu, 2012; Escobar-Rodríguez and Carvajal-Trujillo, 2014]. This reflects that technology use is conditioned by other people's opinions; it suggests that people recognise omnichannel shopping and social influence affect purchase intentions.

Performance expectancy was the third construct that was discovered to have a positive relationship with purchase intention within an omnichannel environment ($\beta = .447$;

$p < .05$). This result is compatible with previous research done by Davis, Bagozzi and Warshaw [1989], as they aimed to uncover the most critical factors that influence people's intentions to use technology. Venkatesh et al. [2003] also agreed that there was a positive relationship between performance expectancy and behavioural intention to use. Juaneda-Ayensa, Mosquera and Murillo [2016] also concluded that performance expectancy was a significant factor in driving the behaviour of buyers in an omnichannel context.

CONCLUSIONS

The results of the current study indicate that there is a positive correlation between effort expectancy and behavioural intention ($\beta = .430$, $p < .05$). This suggested that people believe that if a given omnichannel technology is clear, understandable and easy to use; it will enhance their behavioural intentions to use it. This finding is in line with Giesing [2003] who posits that effort expectancy is a factor that influences behavioural intention to use.

Habit also has a positive influence regarding both user purchase intention ($\beta = .289$; $p < .05$) and use behaviour ($\beta = .432$; $p < .05$) in omnichannel shopping. Habit has a more positive impact on use behaviour than purchase intention. Such a result is reasonable, as if buyers have used different channels previously and found them to be useful, they will continue and build an emerging habit towards utilising these channels. When a shopper frequent interacts with omnichannels, habit develops and heightens the desires that build the behavioural intention to continue using them [Hew, Lee, Ooi, 2015].

The findings verified personal innovativeness as the most potent predictor of purchase intention, accompanied by social influence and performance expectancy. Meanwhile, perceived risk and hedonic motivation were observed to be insignificant in this study. Habit was discovered as a reliable indicator for both purchase intention and usage behaviour, while facilitating conditions were found to only have a relation to use behaviour.

RESEARCH LIMITATIONS

There are always some limitations needing to be addressed in the research structure and method. Firstly, memories recalled from participants comprise a mixture of real experiences, what they have assumed, and what they received later. Therefore, it may be challenging for people to differentiate between situations, whether their opinions were obtained directly through their own experience, or of someone else, or some other aspects [Memory, 1999]. Any experience has a specific influence on individual perspectives for utilising omnichannels and the technology. Secondly, there is a lack of theoretical aspects involved in this study, where most of the omnichannel studies were carried out only on the intention to purchase, not continuous usage behaviour. This obstacle has undoubtedly limited the field of this analysis. Thirdly, the test and data were collected in the Voivodship of Greater Poland. Research in any other city with more significant or lower amount of omnichannel use and penetration could lead to contradictory results. Furthermore, with the limitation of sample size, as well as its coarse respondent scale, could have given rise to the fact why certain hypotheses were supported, as argued by Kang and Waller [2005].

This study also contributes possibilities for future study. For example, it can be about the role of technology in the physical store in an omnichannel environment. Retailers can use this study as it relates to their strategies, because as it identifies personal innovativeness as the main element of omnishopper behaviour, the retailer could build a system that personalise customer shopping experience, which can influence customer loyalty and maintain their reputation..

ACKNOWLEDGMENTS AND FUNDING SOURCE DECLARATION

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

REFERENCES

- Bloomberg J., 2014,. Retrieved 5 10, 2019, from Forbes:
<https://www.forbes.com/sites/jasonbloombe rg/2014/09/30/omnichannel-more-than-a-digital-transformation-buzzword/>
- Brown S.A., Venkatesh V., 2005. Model of adoption and technology in households: a baseline model test and extension incorporating household life cycle. *MIS Q.* , 29, 399-436.
<http://doi.org/10.2307/25148690>
- Byrne B., 1998. *Structural Equation Modeling with LISREL, PRELIS and SIMPLIS: Basic Concepts, Applications and Programming.* Mahwah. New Jersey: Lawrence Erlbaum Associates.
- Chang H., Chen S., 2009. Consumer perception of interface quality, security and loyalty in electronic com- merce. *Information & Management*, 46(7), 411-417.
<http://doi.org/10.1016/j.im.2009.08.002>
- Childers T.L., Carr C.L., Peck J., Carson S., 2001. Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of Retailing*, 77(4), 511-535.
[http://doi.org/10.1016/s0022-4359\(01\)00056-2](http://doi.org/10.1016/s0022-4359(01)00056-2)
- Cook G., 2014. Customer experience in the omni-channel world and the challenges and opportunities this presents. *Journal of Direct, Data and Digital Marketing Practice*, 15(4), 262-266.
<http://doi.org/10.1057/dddmp.2014.16>
- Cunningham S.M., 1967. The major dimensions of perceived risk, in Cox, D.F. (Ed). *Risk taking and information handling in consumer behavior*, 82-108.
- Davis F.D., 1989. Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319-340.
<http://doi.org/10.2307/249008>
- Davis F.D., Bagozzi R.P., Warshaw P.R., 1989. User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*, 35(8), 982-1003.
<http://doi.org/10.1287/mnsc.35.8.982>
- Escobar-Rodríguez T., Carvajal-Trujillo E., 2014. Online purchasing tickets for low cost carriers: An application of the unified theory of acceptance and use of technology (UTAUT) model. *Tourism Management*, 43, 70-88.
<http://doi.org/10.1016/j.tourman.2014.01.017>
- Field A., 2009. *Discovering statistics using SPSS.* London: SAGE.
- Forsythe S., Liu C., Shannon D., Gardner L.C., 2006. Development of a scale to measure the perceived benefits and risks of online shopping. *Journal of Interactive Marketing*, 20(2), 55-75.
<http://doi.org/10.1002/dir.20061>
- George D., Mallery P., 2010. *SPSS for Windows Step by Step: A Simple Guide and Reference 17.0 (10th ed.)*. Boston: Pearson.
- Giesing I., 2003. *User Perceptions Related To Identification Through Biometrics Within Electronic Business.* South Africa: University of Pretoria.
- Herhausen D., Binder J., Schoegel M., Herrmann A., 2015. Integrating Bricks with Clicks: Retailer-Level and Channel-Level Outcomes of Online-Offline Channel Integration. *Journal of Retailing*, 91(2), 309-325.
<http://doi.org/10.1016/j.jretai.2014.12.009>
- Hew J., Lee V., Ooi K.W., 2015. What catalyses mobile apps usage intention: an empirical analysis. *Industrial Management & Data Systems*, 115(7), 1269-1291.
<http://doi.org/10.1108/imds-01-2015-0028>
- Januszewski A., 2011. Modele równań strukturalnych w metodologii badań psychologicznych. Problematyka przyczynowości w modelach strukturalnych i dopuszczalność modeli. [Models of structural equations in methodology of psychological researches and acceptance of models]. *Studia z Psychologii w KUL*, 17, 213-245.
- Juaneda-Ayensa E., Mosquera A., Murillo Y., 2016. Omni-channel customer behavior: key drivers of technology acceptance and use and their effects on purchase intention.

- Frontiers in Psychology, 7(1117), 1-11. <http://doi.org/10.3389/fpsyg.2016.01117>
- Kang S.M., Waller N.G., 2005. Moderated multiple regression, spurious interaction effects, and IRT. *Applied Psychological Measurement*, 29(2), 87-105. <http://doi.org/10.1177/0146621604272737>
- Kazancoglu I., Aydin H., 2018. An investigation of consumers' purchase intentions towards omni-channel shopping. *International Journal of Retail & Distribution Management*, 46(10), 959-976. <http://doi.org/10.1108/ijrdm-04-2018-0074>
- Kim J., Forsythe S., 2007. Hedonic usage of product virtualization technologies in online apparel shopping. *Int. J. Retail Distrib. Manage*, 35, 502-514. <http://doi.org/10.1108/09590550710750368>
- Lai J.Y., Debbarma S., Ulhas K.R., 2012. An empirical study of consumer switching behaviour towards mobile shopping: a Push-Pull-Mooring model. *International Journal of Mobile Communications*, 10(4), 386-404. <http://doi.org/10.1504/ijmc.2012.048137>
- Limayem M., Hirt S.G., Cheung C.M., 2007. How habit limits the predictive power of intention: the case of information systems continuance. *MIS Q*, 31, 705-737. <http://doi.org/10.2307/25148817>
- Lu J., Yao J.E., Yu C., 2005. Personal innovativeness, social influences and adoption of wireless Internet services via mobile technology. *The Journal of Strategic Information Systems*, 14(3), 245-268. <http://doi.org/10.1016/j.jsis.2005.07.003>
- Memory A., 1999. Remembering what happened: Memory errors and survey reports. *The science of self-report: Implications for research and practice*.
- Midgley D., Dowling G., 1978. Innovativeness: The Concept and Its Measurement. *Journal of Consumer Research*, 4, 229-242. <http://doi.org/10.1086/208701>
- Moore G.C., Benbasat I., 1991. Development of an Instrument to Measure the Perceptions of Adopting an Information Technology Innovation. *Information Systems Research*, 2(3), 192-222. <http://doi.org/10.1287/isre.2.3.192>
- Morgan G., Leech N., Gloeckner G., Barrett K., 2013. *IBM SPSS for Introductory Statistics: Use and Interpretation* (5th ed.). New York: Routledge.
- Pantano E., Viassone M., 2015. Engaging consumers on new integrated multichannel retail settings: Challenges for retailers. *Journal of Retailing and Consumer Services*, 25, 106-114. <http://doi.org/10.1016/j.jretconser.2015.04.003>
- Pascual-Miguel F.J., Agudo-Peregrina Á.F., Chaparro-Peláez J., 2015. Influences of gender and product type on online purchasing. *Journal of Business Research*, 68(7), 1550-1556. <http://doi.org/10.1016/j.jbusres.2015.01.050>
- Pedotto K., Chen V., 2016. 2016 US Mobile App Report. Comscore.
- Piotrowicz W., Cuthbertson R., 2014. Introduction to the Special Issue Information Technology in Retail: Toward Omnichannel Retailing. *International Journal of Electronic Commerce*, 18(4), 5-16. <http://doi.org/10.2753/jec1086-4415180400>
- Rigby D.K., 2011. The Future of Shopping. *Harvard Business Review*, 89, 65-76.
- Rippé C.B., Weisfeld-Spolter S., Yurova Y., Sussan F., 2015. Is there a global multichannel consumer? *International Marketing Review*, 32(3/4), 329-349. <http://doi.org/10.1108/IMR-10-2013-0225>
- Rogers E.M., 2010. *Diffusion of Innovations* (4th ed.). NY: Simon and Schuster.
- San Martín H., Herrero A., 2012. Influence of the user's psychological factors on the online purchase intention in rural tourism: integrating innovativeness to the UTAUT framework. *Tourism Management*, 33, 341-350. <http://doi.org/10.1016/j.tourman.2011.04.003>
- Schlager T., Maas P., 2013. Fitting International Segmentation for Emerging Markets: Conceptual Development and Empirical Illustration. *Journal of International Marketing*, 21(2), 39-61. <http://doi.org/10.1509/jim.12.0066>

- Trojanowski M., Kułak J., 2017. The Impact of Moderators and Trust on Consumer's Intention to Use a Mobile Phone for Purchases. *Journal of Management and Business Administration*, 25(2), 91–116. <http://doi.org/10.7206/jmba.ce.2450-7814.197>
- Venkatesh V., Morris M.G., Davis G.B., Davis F.D., 2003. User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, 27(3), 425-478. <http://doi.org/10.2307/30036540>
- Venkatesh V., Thong J.Y., Xu X., 2012. Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly*, 36(1), 157-178. <http://doi.org/10.2307/41410412>
- Verhoef P.C., Kannan P., Inman J.J., 2015. From Multi-Channel Retailing to Omnichannel Retailing. *Journal of Retailing*, 91(2), 174-181. <http://doi.org/10.1016/j.jretai.2015.02.005>
- Yurova Y., Rippé C.B., Weisfeld-Spolter S., Sussan F., Arndt A., 2017. Not all adaptive selling to omni-consumers is influential: The moderating effect of product type. *Journal of Retailing and Consumer Services*, 34, 271-277. <http://doi.org/10.1016/j.jretconser.2016.01.009>

BADANIE DETERMINANT AKCEPTACJI TECHNOLOGII OMNICHANNELINGU PRZEZ KONSUMENTÓW Z WYKORZYSTANIEM MODELU UTAUT2

STRESZCZENIE. Wstęp: W pracy przedstawiono problem akceptacji technologii omnichannelingu przez konsumentów w procesie dokonywania zakupów. Technologia omnichannelingu jest innowacyjnym rozwiązaniem stosowanym przez detalistów wykorzystujących zarówno stacjonarne, jak i internetowe formaty handlu, polegającym na integracji kanałów sprzedaży. Jest to rozwiązanie kosztowne oraz złożone operacyjnie, stąd konieczność zbadania skłonności nabywców do jej akceptacji. Celem artykułu jest zbadanie uwarunkowań zarówno intencji przyjęcia technologii omnichannel przez konsumentów, jak i jej wykorzystania w zachowaniach zakupowych zgodnie z przyjętym modelem UTAUT2.

Metody: W pracy zastosowano hipotetyczno-dedukcyjną metodę naukową. Na podstawie modelu UTAUT2 zostały sformułowane hipotezy dotyczące rodzaju i siły oddziaływania zmiennych latentnych, do weryfikacji których zastosowano konfirmacyjną analizę czynnikową. Pozwoliła ona wskazać determinanty i określić siłę ich wpływu zarówno na intencję akceptacji technologii omnichannelingu w procesie zakupu, jak i jej użycie.

Wyniki: Dane do analizy pozyskano od 280 respondentów metodą CAWI. Następnie zweryfikowano czynniki przy pomocy eksploracyjnej analizy czynnikowej. Do zbadania determinant (i siły ich wpływu) intencji akceptacji technologii oraz jej zastosowania w procesie zakupu zastosowano konfirmacyjną analizę czynnikową.

Wnioski: Przeprowadzone badanie wskazało osobistą innowacyjność jako najsilniejszy predyktor zamiaru zakupu, któremu towarzyszy wpływ społeczny i oczekiwana wydajność. Zaobserwowano także, że postrzegane ryzyko i motywacja hedoniczna były nieistotne w tym badaniu. Odkryto, że nawyk jest wiarygodnym wskaźnikiem zarówno intencji akceptacji technologii omnichannelingu w procesie zakupu, jak i zachowań związanych z wykorzystywaniem tej technologii, podczas gdy warunki ułatwiające okazały się mieć związek tylko z wykorzystywaniem technologii omnichannelingu.

Słowa kluczowe: omnichanneling, model UTAUT2, akceptacja technologii, intencja akceptacji

Ngoc My Hang - Nguyen
CBRE Corporate Outsourcing
al. Niepodległości 245/8, 02-009 Warsaw, **Poland**
email: hang.nguyenngocmy@gmail.com

Barbara Borusiak ORCID ID: <https://orcid.org/0000-0003-0672-1135>
Department of Commerce and Marketing
Poznań University of Economics and Business
al. Niepodległości 10, 61-875 Poznań, **Poland**
email: barbara.borusiak@ue.poznan.pl
